

## Digital Right-to-Know

(Last updated: 2/29/2012):

### MSDS Sheets:

MSDS for Methanol

[http://www.midi-inc.com/pdf/MSDS\\_Methanol.pdf](http://www.midi-inc.com/pdf/MSDS_Methanol.pdf)

MSDS for Potassium Hydroxide

<http://www.sciencelab.com/msds.php?msdsId=9927230>

MSDS for 91% Isopropyl Alcohol [http://www.stmarytx.edu/environmental-health/pdf/engineering\\_mfg-ie/Celeste\\_91pctIsopropylAlc.pdf](http://www.stmarytx.edu/environmental-health/pdf/engineering_mfg-ie/Celeste_91pctIsopropylAlc.pdf)

MSDS for 1% Phenolphthalein <http://www.ch.ntu.edu.tw/~genchem99/msds/exp14/phenolphthalein.pdf>

MSDS for Potassium Hydroxide

[http://www.midi-inc.com/pdf/MSDS\\_Reagent\\_A\\_Potassium\\_Methoxide\\_Methanol.pdf](http://www.midi-inc.com/pdf/MSDS_Reagent_A_Potassium_Methoxide_Methanol.pdf)

MSDS for Vegetable Oil

[http://www.sargentwelch.com/pdf/msds/Vegetable\\_Oil\\_786.00.pdf](http://www.sargentwelch.com/pdf/msds/Vegetable_Oil_786.00.pdf)

### Emergency Response

#### Methanol Spill

- **Hazard Reduction:**
  - Be aware of any containers of methanol, especially open ones.
  - Always wear adequate PPE (gloves, goggles, aprons).
  - When shaking containers, such as 27/3 tests and kitchen batches, always make sure it is tightly capped and locked.
- 30 mL spilled (such as in a 27/3 test):
  - Quickly make sure no one got any methanol spilled on them.
  - Notify Mr. C and anyone in the general area.
  - Get a wet rag, and dilute the methanol with water.
  - Wipe up the remainder with additional rags.
  - Wash the rags in the sink with excess water.
  - Wash gloves to remove any methanol on them.
- 200 mL spilled (such as in a kitchen batch):
  - Quickly make sure no one got any methanol spilled on them.
  - Notify Mr. C and anyone in the general area immediately. Make sure no one enters the vicinity.
  - Quickly place grey absorbant pads on the spill, and back away from the table.
  - After the spill has been completely absorbed, carefully pick up (with gloves) the pads, and bring them over to the sink.
  - Begin diluting the methanol in water. Also, use the spray from the sink to reduce vapors coming off of the pad.

- Carefully wash any gloves with soap and water to remove any remaining methanol.

- More than 500 mL (such as in a full scale batch)
  - Quickly make sure no one got any methanol spilled on them. Be particularly careful no one has methanol on their shoes. If so, leave the area and remove contaminated clothing.
  - Notify Mr. C and everyone in the shop immediately.
  - Quickly contain the spill, and use the absorbent pads and powder in the spill kit as needed.
  - If the spill cannot fully be absorbed, shut off power and evacuate the shop.
  - If the spill can be fully absorbed, stay back from the area, and monitor the situation.
  - If at any time, the Drager goes off with its third alarm, cut power and evacuate the shop.

## Oil Spill

### **Hazard Reduction:**

- Be careful with open-lidded containers like buckets and beakers. Be aware of where these are to avoid knocking them over.
- When in biodiesel production, place a layer of cardboard on the floor to capture small scale spills.
- Any spills on the lab table:
  - If any oil gets on the floor, warn people nearby so that they don't slip.
  - Wipe up with paper towels or rags.
  - Use soap and water to get out any excess.
  - Make sure it's entirely cleaned up, i.e. check the floor to see if it dripped there.
- Any spills on the floor, such as in full-scale batches:
  - Place down cardboard to contain the spill, and absorb some of it.
  - If this takes care of most of it, simply mop up the rest.
  - If a significant amount of oil is still present, use the absorbent pads from the spill kit to clean up the rest, and mop up the trace amounts remaining.

After any incident, File an accident report.

## **FIRST AID**

### **Isopropyl Alcohol**

#### **Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

#### **Skin Contact:**

Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

#### **Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

#### **Serious Inhalation:**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

#### **Ingestion:**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

### **FIRST AID**

#### **Phenolphthalein**

##### **Eye Contact:**

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.

##### **Skin Contact:**

Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

##### **Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

##### **Serious Inhalation:**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. Seek medical attention.

##### **Ingestion:**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

### **FIRST AID**

#### **Methoxide**

**Eyes:** Get medical aid immediately. Continue rinsing eyes during transport to hospital. Flush thoroughly with water for at least 15 minutes. Do NOT allow victim to rub or keep eyes closed. SPEEDY ACTION IS CRITICAL.

**Skin:** Take off contaminated clothing and shoes immediately. Flush skin with copious quantities of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Consult a physician.

**Ingestion:** Get medical aid immediately. Do NOT induce vomiting. Potential for aspiration if swallowed. Never give anything by mouth to an unconscious person. Rinse mouth with water. If vomiting occurs naturally, have victim lean forward.

**Inhalation:** Get medical aid immediately. Remove patient to fresh air. Administer oxygen supply if breathing is difficult. Administer artificial respiration if breathing has ceased. Call a physician.

Notes to Physician: Effects may be delayed. Ethanol may inhibit methanol metabolism.

#### **HMIS PPE Label Code:**

- A      safety glasses
- B      safety glasses and gloves
- C      safety glasses, gloves and an apron
- D      face shield, gloves and an apron

- E safety glasses, gloves and a dust respirator
- F safety glasses, gloves, apron and a dust respirator
- G safety glasses, a vapor respirator
- H splash goggles, gloves, apron and a vapor respirator
- I safety glasses, gloves and a dust/vapor respirator
- J splash goggles, gloves, apron and a dust/vapor respirator
- K airline hood or mask, gloves, full suit and boots

**HMIS Hazard Identification Explanation:**

[http://www.ecy.wa.gov/programs/hwtr/hw\\_labels/hmis.html](http://www.ecy.wa.gov/programs/hwtr/hw_labels/hmis.html)

## Reactivity Rating

Rating Susceptibility to Release of Energy

- |   |   |
|---|---|
| 0 | Normally stable materials, even under fire conditions.<br>Do not react with water.  |
| 1 | Normally stable materials which may become unstable under fire conditions or at elevated temperatures or pressures.<br>May react with water, but not violently.   |
| 2 | Materials normally unstable and readily undergo violent chemical change but do not detonate.<br>Includes materials which react violently with water, and other materials which undergo chemical change at normal temperatures and pressures and violent reaction at elevated temperatures and pressures.                                  |
| 3 | Materials capable of detonation, but require a strong initiating source or which must be heated under confinement before initiation.<br>Includes materials sensitive to thermal or mechanical shock at elevated temperatures and pressures. Also includes those materials which react explosively with water without heat or confinement. |
| 4 | Materials which in themselves are readily capable of detonation or explosive reaction at normal temperatures and pressures. Includes materials which are sensitive to mechanical or localized thermal shock.  |

## Health Rating

### Type of Possible Injury

- |   |   |
|---|---|
| 0 | Materials that on exposure under fire conditions offer no hazard beyond that of ordinary combustible materials.<br>Do not react with water.   |
| 1 | Materials that on exposure would cause irritation but only minor residual injury.   |
| 2 | Materials that on intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury. chemical change at normal temperatures and pressures and violent reaction at elevated temperatures and pressures. |
| 3 | Materials that on short exposure could cause serious temporary or residual injury.  |
| 4 | Materials that on very short exposure could cause death or major residual injury.   |

## Flammability Rating

### Hazard Description

- |   |  |
|---|--|
| 0 | Materials that will not burn.  |
| 1 | Materials that must be preheated before they will ignite.  |
| 2 | Materials that must be moderately heated or exposed to relatively high ambient temperatures before they will ignite.                           |
| 3 | Liquids and solids that can ignite under almost all temperature conditions.  |
| 4 | Materials which will rapidly vaporize at atmospheric pressure and normal temperatures, or are readily dispersed in air and which burn readily. |